

ACTIVE EMI FILTER

ABSTRACT OF THE DISCLOSURE

An active EMI filter senses current in a ground line or a power transmission line as a voltage cross a capacitor coupled to the line. The EMI filter senses common mode voltage and determines a difference between the common mode voltage and noise to provide an output to drive the difference to zero. The resulting active closed loop EMI filter produces good EMI dampening with greatly increased performance over a current transformer type EMI filter. A voltage regulator for the error amplifier improves noise reduction while increasing filter efficiency. The active EMI filter operates in a wide linear range that is greater than that of an equivalent current transformer circuit, while providing low cost and reliability.